## REMARKS

Claims 38-39, 41-44, 46-47, 58-60, 62-67, 126-134, and 144-151 are pending. Claims 38, 58, 126 and 144 are amended. Claims 1-37, 40, 45, 48-57, 61, 68-125, 135-143 and 152-177 have been canceled. Applicant requests reconsideration and reexamination of the pending claims.

Claims 38-42, 44-47, 58-65, 67, 126-129, 131-134, 144-149 and 151 are rejected under 35 U.S.C. 102(b), as being anticipated by U.S. Patent No. 5,856,988 to *Kiriyama*. Claims 43, 66, 130 and 150 are rejected under 35 U.S.C. 103(a), as being unpatentable over *Kiriyama*. The Applicant respectfully traverses.

> "An anticipating reference must describe the patented subject matter with sufficient clarity and detail to establish that the subject matter existed in the prior art and that such existence would be recognized by persons of ordinary skill in the field of the invention." *See In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990); *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 678, 7 USPQ2d 1315, 1317 (Fed. Cir. 1988).

Claim 38 sets forth, *inter alia*, an encoder, including "a dynamic forward error correction encoder which generates said one or more variable length data segments having a dynamic preamble based on the length of said one or more variable length data segments and wherein said dynamic forward error correction encoder generates a forward error correction field which size is based on the dynamic preamble" and which "selects based upon the number of errors and the type of errors on the network of a communication channel associated with said sending network node the error correction method and the amount of error correction to be used to adapt dynamically to changing network error conditions."

The present invention provides a multi-use preamble that identifies the start of a

segment, that describes the forward error correction methods size or no error correction, that describes the error detecting field length and describes the segment size.

Applicant could find no teaching or suggestion in *Kiriyama* of a dynamic error detection encoder which generates a variable length error detecting field based on a preamble and which is used to identify the start of the data segment.

In addition, Applicant could find no teaching or suggestion in *Kiriyama* of a dynamic forward error correction encoder which generates a forward error correction field which size is based on a dynamic preamble. In the present invention, the size of the error correcting field is related to the length of the encoded data and/or the strength of the forward error correction used.

In contrast, *Kiriyama* simply discloses "a transmitter selectively encodes data with an error correcting code depending on the state of congestion of a transmission path, multiplexes decision information indicative of whether data are encoded or not with a data frame, and transmits the data frame."

Moreover, *Kiriyama* only uses two bits to identify one of two types of error correction or no error correction. The Examiner states that *Kiriyama's* use of HF and HE (two data bits) effectively indicates the size of the FEC codeword. Applicant submits that it is only possible to have a variable size data field and indicate the size of the encoded data using only two bits if, in contrast to Claim 38, the encoded data is of a known fixed length, since the decoder assumes encoded data of a fixed length.

The present invention is not limited to two bits describing the type of forward error correction. The present invention fully describes the data that is being transmitted

using the multi-bit dynamic preamble. This is what allows for a truly dynamic system where segments may be any size and any method of FEC may be used.

Moreover, as set forth in Claim 38, the encoder selects the error correction method and the amount of error correction to be used based upon the number of errors and the type of errors on the network "to adapt dynamically to changing network error conditions." *Kiriyama* discloses "decision information HF, HE [being] set to values... depending on the congestion and a bit error rate of the network" (*Kiriyama*, Col. 4, lns. 22-24), but includes no disclosure teaching or suggesting dynamic adaptation to changing network conditions. Thus, claim 38 is not anticipated by *Kiriyama* and Applicant requests allowance of claim 38.

Claims 39, 41-44 and 46-47 depend from claim 38 and are also allowable for at least the same reasons as Claim 38 as well as for the novel features which they add.

Claim 58 sets forth, *inter alia*, a "decoder uses an error correction method and an amount of error correction based upon the number of errors and the type of errors on the network of a communication channel associated with said receiving network node to adapt dynamically to changing network error conditions."

Applicant could find no disclosure in *Kiriyama* which teaches or suggests a decoder which uses an error correction method and an amount of error correction based upon the number of errors and the type of errors on the network of a communication channel to adapt dynamically to changing network error conditions.

In contrast, *Kiriyama* discloses that an object of the invention is to provide "a receiver for independently decoding the data based on decision information indicative of

whether the data have been encoded or not" (*Kiriyama*, col. 2, lns. 14-16) so as to be able to separate the two types of data.

Moreover, *Kiriyama* discloses directing the data to the cell bit error correction code regardless of how severe or mild the error condition, regardless of the cause of the error condition, and regardless of whether one method or another would better handle the error condition on that communication channel at any particular moment. *Kiriyama* also discloses directing the data to the cell loss correction code regardless of what the particular noise pattern, attenuation, or interference encountered on the communication channel.

As stated in *Kiriyama,* "[e]ach of the variable data shown in FIG. 5(a) and indicated by "a" in FIG. 5(b) has a variable length. In order to decode such variable-length data from the error correcting code such as a Reed-Solomon code, fixed-length data having a necessary length are assumed, and a data portion corresponding to the difference between the fixed-length data and actual variable-length data is assumed to contain data "0"". Thus, in contrast to the present invention, *Kiriyama* discloses that the received data must be made to fit a fixed size decoding field where if the transmitted data is resized (meaning made smaller) *Kiriyama* discloses padding the remaining unused bits of the fixed length field with zero's. Applicant submits that the received encoded data cannot be padded with zeroes, then decoded. It must be zero-padded before it is encoded.

As set forth in Claim 58, the decoder selects the error correction method and the amount of error correction to be used based upon the number of errors and the type of errors on the network "to adapt dynamically to changing network error conditions." As previously stated, *Kiriyama* discloses "decision information HF, HE [being] set to

values... depending on the congestion and a bit error rate of the network" (*Kiriyama*, Col. 4, lns. 22-24), but includes no disclosure teaching or suggesting dynamic adaptation to changing network conditions.

Thus, since the "receiver" disclosed in *Kiriyama* merely teaches directing the data to one or another correction methods based on pre-set values and does not disclose a decoder which "uses an error correction method and an amount of error correction based upon the number of errors and the type of errors ... to adapt dynamically to changing network error conditions," Claim 58 is not anticipated by *Kiriyama* and Applicant requests allowance of claim 58. Claims 59-64 and 66-67 depend from Claim 58 and are also allowable for at least the same reasons as Claim 58 as well as for the novel features which they add.

Claim 126 sets forth, *inter alia*, a method for "selecting a forward error correction method, the amount of error correction to use and an associated preamble, based on the number of errors and the type of errors on the network of a communication channel associated with a sending network node to dynamically adapt to changing network error conditions on the network."

Moreover, Claim 144 sets forth, *inter alia*, "determining from said preamble a forward error correction method and the amount of error correction to use based on the number of errors and the type of errors on the network of a communication channel associated with said receiving network node, to dynamically adapt to changing network error conditions on the network."

For the reasons set forth above regarding Claims 38 and 58, *Kiriyama* fails to teach or suggest "selecting" or "determining," respectively, a forward error correction

method and the amount of error correction to use based on the number of errors and the type of errors on the network of a communication channel "to dynamically adapt to changing network error conditions on the network." Thus, Claims 126 and 144 are not anticipated by *Kiriyama* and Applicant requests allowance of Claims 126 and 144. Claims 127-134 depend from Claim 126 and are also allowable for at least the same reasons as Claim 126 as well as for the novel features which they add. Claims 145-151 depend from Claim 144 and are also allowable for at least the same reasons as Claim 144 as well as for the novel features which they add.

## CONCLUSION

In view of the foregoing, it is believed that claims 38-39, 41-44, 46-47, 58-60, 62-67, 126-134, and 144-151 are in condition for allowance. A Notice of Allowance is earnestly solicited at the earliest possible date. If the Examiner believes that a telephone conference would be useful in moving the application forward to allowance, the Examiner is encouraged to contact the undersigned.

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Respectfully submitted,

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